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Cost accounting in a bank

Place:

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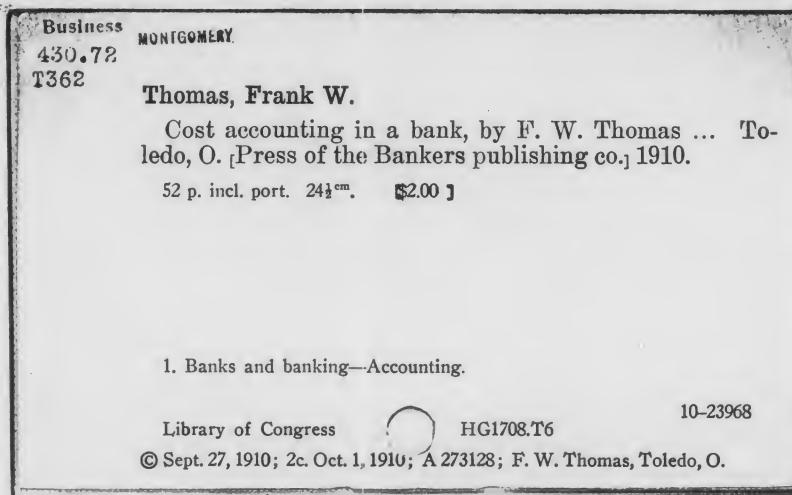
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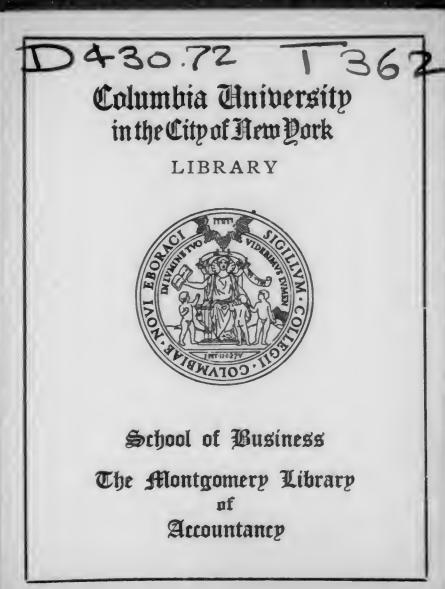
By F. W. THOMAS,

President

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TOLEDO, OHIO.

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*F. W. Thomas*

## The Necessity for Cost Accounting in a Bank.

*An Address Delivered by F. W. Thomas, President of the Bankers Publishing Company, of Toledo, Ohio, Before the Ohio Bankers Association at Columbus, June 7th, 1910.*

The actual money furnished by the Government for the conduct of business is sufficient for only about five per cent. of our transactions. The remaining ninety-five per cent. are handled by checks and drafts furnished by the banks. All the vast machinery needed for the handling of these checks and drafts, for their transfer from party to party, in the same city, or in a remote city, is operated by the banks, usually with no specific charge for this service and *with no adequate system of accounting* for determining whether or no they secure a proper recompense.

The mere handling of items is the smaller part of a bank's business and yet in this one feature, usually looked upon as not worth accounting, the banks of this country render a service that actually costs them, as nearly as can be estimated, at least one hundred millions of dollars annually.

In the broader phases of banking,—the relation of balances to the cost of handling money, making loans, and other services rendered to customers,—costing the banks of the United States fully two hundred millions of dollars additional,—there is almost a total disregard of any exact basis for determining the profit line.

Here is, then, one of the largest and most indispensable business organizations in the country, a vast co-ordinate service, costing about three hundred millions annually, that is operated on a basis almost utterly regardless of adequate profit *from the individual customer*, and trusting largely to luck that the business *as a whole* will

carry the burden. And the banks do carry this load and do pay dividends, but often not commensurate with the profits of other lines requiring less ability; and certainly with less profit than would be realized if every customer paid a fair compensation for the service he receives.

The customer's balance, the use of which is supposed to represent the bank's compensation, is often more fictitious than real. It is often partly, sometimes fully and occasionally more than offset by items in transit, so that without an accurate analysis, the customer's balance, as it appears on the books, is a very deceptive measure of the true value of his account.

The banker stands as the business counsellor and often as the critic of the business and financial operations of his customers.

A country banker faced by a farmer debtor who had a herd of a dozen cows showing a loss would probably suggest the purchase of a Babcock tester and the elimination of the cows that did not produce a profitable percentage of butter fat.

A city banker with a delinquent manufacturer on his hands would probably ask that man whether his whole business was unprofitable or whether there were certain lines that he could follow and produce a profit, cutting out the unprofitable lines; and if the manufacturer should tell him that he could not tell which lines were the losing and which the profitable ones, the banker would probably wish to cast that man into outer darkness.

*And yet many banks do not know how much of their total net profit is produced by the commercial department and how much by the savings department.*

And many accounts with apparently very large balances are really unprofitable when correctly analyzed.

The necessity of a cost system in a bank is greater than in almost any other business owing to the narrow margin of profit on the *gross amounts handled* in banking, and the demonstrated fact that much business is now being handled without profit or at an actual

loss because of a lack of positive, definite knowledge of costs and the consequent lack of intelligent effort to remedy these conditions.

A great deal of interest is now manifest in this subject. One by one the central reserve and ordinary reserve city banks are putting such a system into practical use and requiring of their bank customers an amount of balance based on correct costs.

Ultimately all of the central reserve city banks and the ordinary reserve city banks will, at frequent intervals, analyze all of the out-of-town bank accounts carried with them, and the out-of-town banker will be obliged to carry a balance in accurate ratio to the service rendered to him.

Unless he, in turn, passes these increased costs along to his customers for whose benefit, largely, he carries these reserve balances, with their attendant collection facilities, then he will see his own profits dwindle.

And how is he to intelligently pass on these costs unless he also introduces a cost system?

The practicability of a cost system in a bank has been demonstrated in several instances at least, and the only reason these instances are not more numerous is that few banks have made any adequate attempt to figure costs at all.

The economy of a cost system and its profit producing possibilities are shown by the fact that in the case of one Central Reserve City Bank having over a hundred millions of assets, the work is entirely handled by one man with two clerks, and the permanent annual gain will amount to \$40,000.00 in actual cash profits less only the salaries of these three men. And no customer has been offended by a request for an increased balance based on a definite showing of the earnings of his account.

One bank in an ordinary reserve city has, for about five years, made a monthly analysis of each of its large accounts, aggregating about 80% of its entire volume of business. The net addition to profits, resulting from this work the first year was over \$9,000.00 and the last year over \$30,000.00.

At first blush most bankers think of a cost system as necessarily attended with a small army of so-called expert accountants, and the introduction of a mass of card-indexes akin to the outfit which Mr. Hitchcock was reported to have used in the Taft campaign. They think it means a mass of intricate detail, a large cost for operation and impracticable results at best.

And this attitude is natural, for the subject is not easy of mastery, but, on the other hand, it is not as difficult as might at first appear.

Most of the data needed is already at hand if rightly used. It means no disturbance of your present methods, simply a little additional work, in the average bank, which can probably be done by one of your present bookkeepers when he has mastered the methods involved.

In a bank having assets of a few millions the work could easily be handled in a fraction of the time of some one bookkeeper, and adjustments resulting in a total increase in commercial balances amounting to only \$30,000.00 would increase the bank's earnings more than his whole salary, to say nothing of other general benefits or the cumulative gain in other years. And there are few fair-sized banks where the intelligent application of a cost system will not result in *more* than \$30,000.00 increase in commercial balances the first year it is in operation.

The objection that it will require some effort and cause some expense to do the bookkeeping connected with a cost system is really ludicrous when one stops to think of the staggering load of *free* bookkeeping that banks are now doing *for their customers*.

The sooner the banks begin to do cost accounting *for themselves*, the sooner they will create conditions where they will receive pay for the great amount of free bookkeeping they are now doing *for others*.

The day is coming, and coming soon, when bankers will realize, as manufacturers and merchants already do, that the first step toward adequate and equitable profits, is a thorough knowledge of

costs, when bankers will see that the true remedy for much of the extreme and unprofitable competition now in vogue, is in a *better knowledge of costs* on the part of *all* bankers.

The fact that the system given here, or some modification of it, has stood the test of practical application, that it has produced large increases in profits, and that it has the hearty approval of men who have worked at this problem for years, and the undeniable fact that some adequate system of cost accounting in a bank is one of the certainties of the immediate future, should commend it to your earnest consideration.





The greatest remedy for excessive and unintelligent competition is an accurate knowledge of costs.

Few combinations or agreements have ever been strong enough to restrain the competitor who honestly believed he could secure more business **at a profit** by offering extra inducements.

But few men will persistently offer their goods or their service for less than cost, after they **know** what the cost is.



## Cost Accounting in A Bank.

The purpose of a cost system in a bank is to give the management an analysis of total costs and earnings in the commercial and savings departments, covering definite periods of time, so that the relative efficiency of each department may be compared annually or semi-annually, in order that the management may have a true basis on which to make efforts for larger earnings and lower expenses.

Further, to provide a basis for correctly analyzing the earnings, cost and profit or loss on any or all individual accounts, to the end that such accounts as may not be paying a proper profit may be adjusted on an equitable basis.

The introduction of a cost system does not mean:—

A material disturbance of your present system of bookkeeping.

Nor a mass of intricate calculations, or the introduction of annoying red tape.

Nor unbending rules for dealing with customers.

Nor any lack of flexibility in policy in handling individual emergencies.

What a cost system does mean:—

It means simply such a possible re-division of the expense accounts in your general books as may be necessary to properly classify and to facilitate the correct distribution of all expenses.

It means semi-annual or annual summaries of total costs and earnings in the savings and commercial departments, prepared in a manner to encourage careful comparisons of results in different periods and to expose any unnecessary increases in expenses or reasons for decreases in earnings, so that if possible these weak spots may be strengthened.

(See Specimen Comparative Sheet on pages 36 and 37.)

It means a system for accurately distributing earnings and costs to individual accounts, the tactful presentation of the facts to customers whose *checking* accounts show a loss or an insufficient profit and the adjustment of such accounts on an equitable basis.

(See Specimen Letter requesting increase in balance, on page 43.)

It contemplates such analysis of savings accounts as will demonstrate which classes of accounts are most profitable to the bank, and what rate of interest, and what rules as to its computation, will produce an equitable total profit.

General considerations of policy must govern many of the transactions of a bank. The introduction of a cost system does not mean the elimination of this element, but it does mean that in deciding upon his policy, in a general way, or in any individual case, the banker shall be fortified by an exact knowledge of costs and earnings, that he shall *know* his facts instead of guessing at them.

#### *General Considerations in Cost Accounting.*

There are certain methods in cost accounting which make for simplicity and accuracy and other methods which are both complex and inaccurate. To illustrate. Imagine a manufacturer of clothes pins. Suppose the cost accountant figures the cost of the wood in one clothes pin, the minutes consumed in each operation on it and all the small fractions of various overhead expenses, and his final cost is used as a basis for the sale of a billion clothes pins. It will be clear that all of his errors or omissions will be *multiplied* by one billion. The smallest error may be enough to break the business. But if he should say, "Last year it cost for materials, labor, expenses of operation and selling, \$75,000.00, and we made a billion clothes pins, therefore each clothes pin cost us one-billionth part of \$75,000.00," he would have a figure he could use confidently.

The clothes pin maker's troubles have been stated very briefly and incompletely, but enough to emphasize the idea, which is that *general averages* are accurate as a *whole*, which is the important point, and that where they may fail of perfect application to each individual case, they are, in fact, more accurate than minutely carried out detail figures, with all their possibilities of error.

Another thing must be borne in mind. No man can tell you the *exact* cost either of running your bank or of any individual account *tomorrow*. The best he can do is to give you that cost for *yesterday*, as a *basis* for your work tomorrow.

There is, therefore, a margin of uncertainty at best, so there is little use in wasting time over refinements of detail that are of questionable value at best.

No cost system can be made which can be used without change by *any* bank. Conditions vary. A large bank requires a more elaborate method than a small one.

#### A cost system must be adapted not adopted.

What each banker needs to know is the cost and the earnings in his bank.

The costs and the earnings of other banks, while of a certain value to him, *for comparative purposes*, and as a check on the efficiency of his own efforts; should never be used as a basis for his own dealings.

If there is anything of value to you in this book, it is in the *application* of this *method*, or some suitable modification of it, to your bank.

Bankers differ as to the extent to which cost calculations should be elaborated. Some desire the utmost exactness. Others contend that it is better to use fairly exact averages, with a liberal margin in favor of the bank to cover possible variations.

The attempt herein has been to give a system which will give results as accurate as can be desired by any banker and to do it with the least possible amount of work.

If any banker, in applying these ideas, desires to eliminate certain portions of the work, and is satisfied with less accurate results, it is, of course, his privilege to do so.

In the illustration here given, cost and earning percentages have been carried out several decimal places. In practice it would be policy to add to the cost percentage and reduce the earning percentage, enough to bring each to an even half or quarter of a per cent, as costs and earnings will vary from time to time and the bank should have some margin for safety.

While the figures herein have been prepared with great care to represent real conditions, whether they do or not, really has no bearing on the value of the *method*.

As far as possible, inconsequent details have been omitted, the desire being to concentrate attention on the method and to avoid all confusing technicalities.

As far as possible, *general averages* should be used in figuring costs and earnings in a bank. Loaning rates fluctuate more or less, and as a banker does not care to be constantly disturbing his arrangements with his customers, the basic percentages showing the cost rate, earning rate and per-item cost should be based on the bank's general average figures for the past year.

In analyzing individual accounts, the figures for each account can be compiled for any period of time that may be convenient, not necessarily for a full year.

*New commercial accounts of any size, or depositing many out-of-town items, should be analyzed at the end of one month or three months, so as to immediately re-adjust arrangements which are radically inequitable.*

For the purpose of illustrating the application of a cost system there are here shown the figures for what we will call *the Specimen National Bank*, not in a reserve city. These are not the figures of any actual bank, as I could not properly publish such figures, but the figures are based on actual data. That they would exactly represent conditions or results in any individual bank is not claimed, in fact it should be distinctly understood that their sole purpose here is to *illustrate a method*, not to establish actual or average figures.

The illustration here used is of a National Bank with a large savings department.

The deposits in the commercial and savings departments will look disproportionate to the average national banker, who if he has a savings department at all, has a small amount of savings deposits in relation to his commercial balances.

There are three reasons for making this illustration in this way. One is that the only actual figures at my command are those of a somewhat similar bank, and were I to construct an example with a radically different proportion I would have no actual figures by which to check the results shown in this illustration.

Another reason is that these proportions exist in a great many state banks and the illustration in this form comes closer to their conditions.

A further reason is that I wish to show the profit on savings handled in considerable volume, so as to make the figures themselves of some value.

I have made it a National Bank instead of a State Bank so as to bring in some elements that could not be shown in a State Bank set of figures, such as circulation, government bonds, etc.

A bank with a trust department would have to make a further subdivision of expenses and this is shown beginning on page 38.

For the purpose, therefore, of illustrating a *method* of cost accounting, the following figures are used:

*The Specimen National Bank, not in a reserve city.*

*Statement.*

**ASSETS.**

Loans and discounts.....	\$3,122,500.00
Due from reserve banks.....	320,000.00
Cash and due from other banks.....	335,000.00
Due from U. S. Treas.....	12,500.00
Furniture and fixtures.....	20,000.00
	\$3,810,000.00
U. S. bonds.....	250,000.00
	\$4,060,000.00

**LIABILITIES.**

Capital .....	\$ 250,000.00
Surplus .....	50,000.00
Undivided profits .....	10,000.00
Savings deposits .....	2,000,000.00
Certificates .....	350,000.00
Commercial deposits .....	1,150,000.00
	\$3,810,000.00
Circulation .....	250,000.00
	\$4,060,000.00

U. S. Bonds and circulation are added after totals are struck, as these two items offset each other and their totals do not enter into cost calculations.

This bank pays four per cent on savings, compounded semi-annually.

Three per cent on six months certificates and four per cent on one year certificates.

Interest is paid on certain checking accounts by special agreement.

For the purpose of this explanation all the figures above given are supposed to represent not only the condition on a certain given date, but also the *average* daily amounts for each item for a period of one year.

In addition to the figures shown in statement, the following general data is used in the computation of costs and earnings.

Average daily total of all deposits.....	\$3,500,000.00
Reserve required by law, 15% of \$3,500,000.00 (minor details in computation of reserve omitted as inconsequential here).....	525,000.00
Average daily amount of assets not loaned.....	687,500.00
Excess of funds not loaned over legal reserve.....	162,500.00
Average daily amount in transit.....	80,000.00

#### Interest Earnings.

Total interest earned by all loans.....	\$173,755.00 (a)
Interest earned by balances in reserve banks.....	4,000.00
Interest earned by government bonds.....	5,000.00
Exchange and sundry earnings.....	3,000.00
Total of all earnings.....	\$185,755.00 (b)

(a) equals 5.5646% on funds loaned.

(b) equals 5.3072% on total deposits.

For accuracy in cost accounting, it is desirable to use the amount of interest actually *earned* in a year, rather than the interest received.

Exchange earnings are included with the interest earnings as they result partly from the maintenance of balances in other cities, and the item as a whole is too small to warrant any individual disposition of it.

#### Division of Earnings by Departments.

Savings deposits .....	\$2,000,000
Commercial deposits.....	\$1,150,000
Certificates .....	350,000
	1,500,000
	\$3,500,000

$\frac{\$2,000,000}{\$3,500,000} \times \$185,755 = \$106,145.71$  for savings department.

$\frac{\$1,500,000}{\$3,500,000} \times \$185,755 = \$79,609.29$  for commercial dept.

#### Interest Paid Out.

Average rates.

On savings accounts..... \$70,000.00 = 3.5% net on sav. deposits.  
On certificates..... 12,250.00 = 3.5% on certificates.  
On checking accounts..... 5,000.00 = .004347 average on commercial.  
(really 2% in special cases)

#### Detailed Operating Cost.

The plan here followed is to charge directly to each department all of those specific expenses having to do with the clerical work and to charge in general expense all other costs aside from interest, and then to assess 25% of the general or overhead expense against the two departments in proportion to the *number of items* handled by each in a year, the remaining 75% of general expense and interest on capital, surplus and profits being finally assessed to the individual accounts on the basis of their balances, and the total clerical cost including 25% of overhead expense is finally assessed to the individual accounts in proportion to the number of items in and out on each individual account.

This plan is based on the idea that the mechanical operation of a bank has two main elements of cost, the care and loaning of money and the handling of detailed transactions for customers.

That the detailed cost of handling items should be assessed on the per-item basis is manifest and that some share of the overhead expense should be included in the calculation of the cost of handling items is evident, for rent, heat and light are quite as necessary to the clerical force working on items as to the officers and directors who pass on loans. A certain part of the time of officers is given to oversight of those handling items and even to personal attention to many individual items. The proportion of general expense (25%) charged into the per-item cost is purely arbitrary and there is no method of fixing it not open to argument, but this proportion has been approved by a number of bankers and can be altered, of course, by any banker who may see fit to apply a different rate in his own cost plans. I would not undertake to say that either 20% or 30% would be wrong, merely contending that the

principle of including some per cent of overhead expense is in line with accepted methods of cost accounting in all lines of business and that there is no reason for not including it in the case of a bank.

*Subdivision of Operating Expenses.*

Item.	Genl. Expense	Clerical Expense	
		Commercial	Savings
Rent	\$ 3,000.00		
Fuel and light	550.00		
Taxes	8,230.00		
Express and freight	400.00		
Postage	1,000.00		
General stationery	850.00		
Pass books, checks and deposit slips		\$ 900.00	\$ 350.00
Telegraph and telephone	275.00		
Salaries.			
Directors	1,000.00		
President	4,000.00		
Vice president	3,000.00		
Cashier	2,500.00		
Asst. cashier and rec. teller		1,600.00	
Savings teller and bookkeeper			1,500.00
General bookkeeper	1,000.00	300.00	200.00
Commercial bookkeeper		1,200.00	
Collection clerk		720.00	
Paying teller		1,200.00	
Stenographer		450.00	150.00
General clerks	600.00	500.00	100.00
Porter	600.00		
Miscellaneous expense	3,000.00		
Advertising	3,500.00		
Depreciation on fixtures (10%)	2,000.00		
Attorneys fees	1,000.00		
Totals	\$36,505.00	\$ 6,870.00	\$ 2,300.00
25% of genl. apportioned to depts. on basis of items	9,126.25	8,513.29	612.96
Net to charge on basis of balance	\$27,378.75	*\$15,383.29	*\$2,912.96

\*Net to apportion on per-item basis.

In the above statement, a number of items such as postage, advertising and general expense, have been thrown entirely into the general expense column, a part of each being ultimately distributed to the various departments, in a general way. It is, of course, possible to subdivide the expenses more accurately and minutely, between the different departments, but this is a matter that may easily be carried to extremes.

This bank is supposed to have arrangements with its reserve banks for crediting all items at par. If this bank were obliged to pay specific collection charges, these would properly be charged direct to the cost of each customer's account in analyzing the same.

*Division of Net General Expense Between Departments  
On Basis of Deposits.*

$$\frac{\$2,000,000}{\$3,500,000} \times \$27,378.75 = \$15,645.00 \text{ or total general expense to assess to Savings Dept.}$$

$$\frac{\$1,500,000}{\$3,500,000} \times \$27,378.75 = \$11,733.75 \text{ or total general expense to assess to Commercial Dept., including Certificates.}$$

As the use of the capital, surplus and profits of the bank is a cost item and no real *profit* can exist till after ordinary interest is earned on same, and as all the interest earnings of the bank have been averaged against *deposits only* to show the average earning rate for deposits we must add to the general operating expense an amount equal to six per cent on capital, surplus and profits (6% of \$310,000.00 or \$18,600.00), to get the true total cost of doing business.

$$\begin{array}{rcl} 75\% \text{ of general expense} & \dots & \$27,378.75 \\ 6\% \text{ of capital, surplus and profits} & \dots & 18,600.00 \end{array}$$

$$\text{Total general cost of operation} \dots \$45,978.75$$

$$\frac{\$45,978.75}{\$3,500,000.00} = 1.31367\% \text{ or average cost of each dollar of deposits for general expense and to cover use of capital, surplus and profits.}$$



*General Statement of Earnings by Departments, treating Certificates  
as a part of the Commercial Department.*

**COMMERCIAL DEPARTMENT.**

Total interest earnings.....	\$79,609.29
Interest on checking accounts.....	\$ 5,000.00
Interest on certificates.....	12,250.00
Proportion of general expense.....	11,733.75
Detailed operating expense.....	<u>15,383.29</u>
Net earnings .....	<u>\$35,242.25</u>

**SAVINGS DEPARTMENT.**

Total interest earnings .....	\$106,145.71
Interest paid out \$70,000.00	
Proportion of genl. expense 15,645.00	
Detailed operating expense....	<u>2,912.96</u>
Net earnings .....	<u>\$ 17,587.75</u>
Total net earnings of bank.....	\$52,830.00
6% on capital, surplus and profits.....	<u>18,600.00</u>
Actual net profits.....	<u>\$34,230.00</u>

Net earnings equal 17.4% on capital, surplus and profits, or 21.13% on capital only.

Net profits equal 11.4% on capital, surplus and profits, or 13.69% on capital only.

It is interesting to note that although the Savings Department has one-third more deposits than the commercial department its actual net earnings are less than one-half as much, with an interest rate of four per cent on savings.

Were the use of capital, surplus and profits assessed against each department in proportion to the deposits in each, instead of against the total net earnings, as here shown, the savings department would show a still less favorable relative profit.

However, as a comparison between strictly savings and regular commercial business, it is only fair to add that losses would be very small in a strictly savings bank, while some loss, and often considerable loss, is unavoidable in commercial banking.

*Computation of total number of items in and out handled in each department in a year and the fixing of an average per-item cost in each department.*

**COMMERCIAL DEPARTMENT.**

Number of cash deposits.....	67,000
Number of checks and drafts on other cities.....	175,000
Number checks on other banks in city.....	133,000
Number of certificates written and cashed.....	2,500
Number of post-office orders.....	12,500
Number of checks drawn on this bank.....	<u>235,000</u>

Total items handled in commercial dept. in year.....625,000

**SAVINGS DEPARTMENT.**

Number of cash deposits.....	21,000
Number of checks and drafts on other cities.....	2,600
Number checks on other banks this city.....	500
Number of post-office orders.....	1,900
Number of withdrawal checks.....	<u>19,000</u>

Total items handled in savings dept. in year.....45,000

(For practical purposes a count of the total items for an average month, multiplied by twelve, would be sufficiently accurate. See remarks on "Counting Items," pages 51 and 52.)

Total cost of handling items commercial dept., \$15,383.29 equals  
Number of items, 625,000  
\$0.024613 cost per item in commercial department.

Total cost handling items in savings dept., \$2,912.96 equals  
Number of items, 45,000  
\$0.06473 cost per item in savings department.

Having now established an average earning rate for each dollar of deposits, an average percentage to allow for general expense and to cover use of capital, surplus and profits, and having established a per-item cost in both commercial and savings departments, and knowing the rate of interest paid on savings accounts and certificates, and the specific interest credited to certain checking accounts; we have basic percentages from which the earnings and cost of any savings or commercial account or certificate can be

quickly and easily computed. As these elements cover all items of cost, were we to analyze every account in the bank and compile the profit or loss on each we would get a total corresponding to the total net profit as shown by the general books, this being the principal test for proving the correctness of a cost system.

*Specimen Analysis of a Commercial Account Having an Average Daily Balance of \$2,000.00 and a Total of 1,000 Items in and out in a Year.*

5.3072% (average earning rate on deposits)	
times \$2,000.00, equals total earnings of.....	\$106.14
1.31367% (average cost on basis of balance)	
times \$2,000.00, equals.....	\$26.27
1000 items at \$.024613, equal.....	<u>24.61</u> — 50.88
Net annual profit on account.....	\$ 55.26
which equals .02763% on average balance.	
No interest paid on this account.	

*Specimen Analysis of a Commercial Account Which Barely Pays Its Cost. Average Daily Balance, \$300.00. Total Number of Items in and out in a Year, 486.*

5.3072% (average earning rate on deposits)	
times \$300.00 equals total earnings of.....	\$15.92
1.31367% (average cost on basis of balance)	
times \$300.00 equals.....	\$ 3.94
486 items at \$.024613 equal.....	<u>11.98</u> 15.92
Account just breaks even.....	\$00.00

From the above it will be clear that no fixed balance can be set as representing the line between profit and loss, as the number of items is fully as vital a feature as is the balance. An account with an average balance of \$100.00 would break even, provided the number of items did not exceed 162 in a year.

*Specimen Analysis of a Savings Account Having an Average Balance of \$500.00 and 12 Items in and out in a Year.*

5.3072% (average earning rate on deposits)	
times \$500.00 equals total earnings of.....	\$ 26.54
3.5% (average rate of interest paid on savings)	
times \$500.00, equals.....	\$17.50
1.31367% (average cost on basis of balance)	
times \$500.00, equals.....	6.57
12 items at \$.06473, equal.....	<u>.78</u> 24.85
Net annual profit on account.....	\$ 1.69
which equals .00338% on average balance.	

It will be well, at this point, to bear carefully in mind the fact that while commercial accounts are analyzed for the purpose of *adjusting individual accounts*; savings accounts are analyzed for the purpose of determining whether the rate paid and the rules and conditions, *as a whole*, are such as to show a proper profit to the bank on all classes of accounts, and if not, to so modify those general conditions, as to *all* customers, as to put the savings department on a sound basis.

It will be noted that in the account analyzed above, we have used the *average rate* paid on savings, instead of the *actual* interest paid on this particular account. This form of analysis is of interest as showing *average* results, and it is the only form of analysis that could be used for *estimating the probable future profit* of an account, inasmuch as it cannot be told in advance whether the depositor will so deposit and withdraw as to forfeit part or all of his interest, or so as to obtain the full rate of four per cent.

We would, however, fall far short of obtaining all the information we should have if we failed to consider what various classes of individual accounts may earn and do earn under the varying conditions which depositors, under the rules, create for themselves.

The following figures will be valuable for a further consideration of the matter. These figures of course apply to the *Specimen National Bank*.

Average earning rate on deposits.....	5.3072 %
Average cost rate on basis of balance.....	<u>1.31367 %</u>
Average net earning rate of deposits on basis of balance.....	3.99353 %
Average rate to cover cost of handling items in savings department (\$2,912.96 ÷ \$2,000,000 = .001456%).....	<u>.001456%</u>
Average net earning rate of all savings balances.....	3.992074%
Average rate of interest paid on all savings deposits.....	3.5 %
Average net margin of profit on all savings deposits.....	.492074%

However, this last figure is the *average rate of profit*, based on the *average rate paid* (3½%) and with the item cost averaged on the basis of balance.

Individual accounts may show wide variations from this result.

A depositor who so deposited and withdrew as to forfeit all interest would produce a profit 3½% greater.

And a depositor who maintained a permanent, undisturbed balance would receive the full four per cent., whereas his account, *if charged with its full share of expense*, would earn, net, but 3.99353%.

While the rate that any individual bank can afford to pay on savings is determined largely by its own average loaning rate and by its volume of business and cost rate for handling money, and while the rate which it must pay may be determined, to some extent, by competition, nevertheless certain valuable deductions can be drawn from the above figures, *as to the Specimen National Bank* or any other bank *operating under similar conditions*, and many of these deductions will apply in a relative way to any bank.

These conclusions are:

That the *average bank* can pay four per cent. on savings and make a profit on the business *as a whole*, but that this profit is not commensurate with the profit on commercial business carried on under the same general conditions, nor consistent with the capital and ability required. This will be clear if we take the net earnings of the savings department in the *Specimen National*, \$17,587.75,

and deduct interest on that portion of the capital, surplus and profits which would be properly assessed to the savings department, viz.: \$10,628.57, as this would leave an actual, net, annual profit of but \$6,959.18 (in excess of 6% on capital, surplus and profits), on a savings business aggregating two millions. This sum is manifestly inadequate to the creation of a proper surplus, meeting possible losses and producing any clear profit for the stockholders.

That *permanent accounts in such a bank* produce a small but continuous loss.

That the profit made on the business as a whole, comes *entirely* from the factor of the forfeiture of interest by a part of the depositors.

That in such a bank, the granting of rules or special concessions that tend to reduce or eliminate the forfeiture of interest, will operate to bring the whole business nearer and nearer to the point where it will not pay.

That the average cost of handling items in the savings department is high and if a depositor is permitted to use his savings account as a checking account, all possible profit will be destroyed, particularly if the rules as to withdrawals result in his receiving interest on his balance.

That in any savings bank the most profitable accounts are the large ones which are just sufficiently active to develop strongly the factor of forfeited interest.

That small accounts are of value only for the future there may be in part of them and for the friendly influence of their owners.

*The percentage of loss on permanent accounts here shown (.00647%) is very small and the elimination of such accounts would be undesirable, as they are carrying an amount of general expense (1.31367%) which is far greater than the net loss they cause, and if they were eliminated, this amount of expense would revert to the remaining business.*

There can be no question but that, *in the average bank*, a rate lower than four per cent., with more equitable rules, so planned as

to produce only a nominal forfeiture of interest, would be fairer to customers as a whole, and help the bank by producing a more evenly balanced profit on all classes of accounts and a greater total profit.

Certificates, likewise, are analyzed, not for the purpose of changing the conditions of any particular certificate, but to determine whether the rates paid and the terms granted on *all* certificates are equitable and profitable.

In analyzing a certificate, the rate actually paid on that particular certificate should be used. The securing of the average rate paid on all certificates, when they are issued at more than one rate, is simply for comparative purposes.

In the *Specimen National*, three per cent. certificates would show a profit, while four per cent. certificates would be in the same class with permanent savings accounts and would show a small loss.

In analyzing certificates, two items should be figured in the cost, covering the writing and the cashing of the certificate.

The results above shown are those that would be accomplished in a bank having the same conditions in every way as our *Specimen National Bank*. These results would naturally vary in different banks, according to their expenses, the rate paid on savings, and the rate earned on funds loaned, etc.

This completes the system for a bank in a city not a reserve city, and in which there are no accounts having an abnormal quantity of out-of-towns items deposited.

It consists briefly of a logical method of distributing the earnings and costs of the bank to the individual accounts by means of certain basic averages. Different men will have somewhat different ideas as to the distribution of certain expense items, whether certain items shall be charged on a balance basis or a per-item basis, and the division of clerical salaries between the different departments naturally would be laid out according to the work done by various employees in each bank,—but this system apportions *every dollar of expense to customer's accounts*, and this is the important

point. Whether some certain expense is included in the balance cost or in the per-item cost would at most make very little difference in the cost of any individual account and no difference at all on the aggregate cost of all accounts.

Some bankers assess all costs on the basis of balance, contending that obtaining and applying a per-item cost involves too much work. They treat the handling of items as an incidental matter of small cost and not worthy of separate accounting. A careful consideration of the above analysis, however, shows that the per-item cost in an average bank really is a considerable portion of the operating cost, and no truly correct analysis of accounts in the average bank can be made without figuring a proper portion of cost on the per-item basis. If all costs are assessed on a balance basis an undisturbed balance of \$100 would show exactly the same cost as an account having an average balance of \$100 and any number of items in and out—a manifest inconsistency. The very purpose of an analysis is to show whether the balance is in proportion to the cost of handling the account and this purpose is defeated by throwing the item cost in with the balance cost. The total number of items handled by the bank can usually be easily told from present records and the number of items per account would not be compiled all the time for all accounts, but simply for a period of one month on such accounts as were analyzed. (See page 51.)

So far in this discussion there has been no attempt to figure the cost of collections\* *individually*, the cost being covered as *an average* and going to reduce the average earning of deposits. The specific costs of collection by banks not in central reserve cities are almost entirely passed on to their correspondent banks in the central reserve cities and paid for indirectly by leaving low-interest-earning balances in those banks. As the total amount of interest earned has been used in figuring the percentage earned by deposits it follows that the rate thus established automatically takes care of the cost of collection, as it allows for all idle funds, and for reserve funds earning a low rate of interest.

\*In this book the word "Collections" is used in the broad sense, meaning all out-of-town items.

But it is particularly noted that this feature of the cost of collection is thus made a uniform or *average* charge against accounts on the basis of their balances, and while it would be so nearly equitable in a bank where the checking accounts each have about the same relative amount of foreign items in proportion to local items, that it would not be policy to enter into elaborate calculations on this matter, still in a bank having some customers whose collection work is abnormal, or in a reserve city bank, this feature must be handled differently.

However, in the average, moderate-sized bank, the system of averages outlined above is entirely accurate as to general results and it is most easily applied to the average run of accounts even though the alternate system that follows be applied to exceptional accounts. Technically speaking, it does not properly discriminate between the customer who deposits local items and the one who deposits foreign items, charging each with a uniform cost rate, but the inequity in moderate-sized accounts would be very small and not sufficient to warrant the application to them of the more elaborate system required in the analysis of very large commercial accounts with abnormal collection features, the accounts of other banks, or in the cost accounting of a reserve city bank.

We will now consider those further methods necessary to properly handle these more complex conditions.

In the first place the figuring of *costs* will be unchanged from the method shown above, except that in a central reserve bank, specific collection charges will be charged to the cost of the individual account, and the percentage to cover cost assessed on a balance basis will be calculated in a little different manner.

The necessary differences in method of computation, with these exceptions, come in the figuring of *earnings*.

The explanation of how to handle an occasional abnormal account in the *Specimen National*, will be clearer if we first take up the computation as it would be made for accounts carried in Central Reserve City Banks.

## In a Central Reserve City Bank.

Operating expenses would be distributed in the same manner as already outlined, viz.: on the basis of balance cost and a per-item cost. But specific collection costs will be charged direct to the cost of each account.

Earnings would be figured by first deducting from the apparent balance, the average daily amount in transit, by a method of figuring given in detail as a foot note on page 51.

From this true balance would be deducted the legal reserve of 25% to give the net *actual usable balance*.

The reason for deducting the reserve in detail instead of averaging this shrinkage into the earning rate on the balance, is that in a central reserve bank the reserve is large and it is an item of cost that will not be questioned by customers to whom an analysis of their accounts may be submitted, whereas were it averaged into the earning rate they might question that rate, not knowing how it was obtained.

It will be clear, however, that even after deducting the average amount in transit and the 25% *legal* reserve, from the total apparent deposits, the remaining *actual* balance, while "usable," is not actually all *used*, as a central reserve city bank must keep some money, at least, on deposit with other banks, and some of its cash funds are not *legal* for reserve.

Hence they cannot, with fairness to themselves, credit the customer with the average loaning rate on his *actual usable balance*, nor can the customer expect this, as the 25% *legal* reserve is a minimum, not a practical line of division between idle and working funds.

Hence they must establish an earning rate for actual usable balances and this would be figured in this way: Average daily total deposits as per books, less total average amount in transit daily, less 25% for legal reserve, divided into total interest earnings for year, equals average rate of earnings on *actual usable balances*.

The percentage to cover the general cost of doing business should also be computed on and assessed to the individual accounts on the same basis, that is, on the basis of usable balances.

An analysis of an account in a central reserve city bank, handled on the basis of crediting all items at par on day received, and paying 2% interest on true balance, that is the balance after deducting items in transit only; would appear as follows:

Apparent average daily balance.....	\$100,000.00
Less average daily amount in transit.....	10,000.00
True total average balance.....	\$ 90,000.00
Less 25% for legal reserve.....	22,500.00
Actual usable balance.....	<u>\$ 67,500.00</u>
4.75% (average rate earned on actual usable balances) times \$67,500.00, equals .....	\$ 3,206.25
.75% (percentage for balance cost) times \$67,500.00, equals.....	\$ 506.25
25,000 items at \$.015, equal.....	375.00
Specific collection charges.....	125.00
Interest on \$90,000.00 at 2%.....	<u>1,800.00</u> 2,806.25
Net annual profit on account.....	\$ 400.00
which equals .004% on apparent average balance.	

The earning and cost percentages and per-item cost here given for a central reserve city bank are purely imaginary and inserted to illustrate the method.

#### Notice Carefully.

Some bankers in ordinary reserve cities and in central reserve cities, while admitting the necessity and practicability of a per-item cost in the average run of banks, contend that in large reserve banks, this feature would entail a prohibitive amount of work and that it is not necessary for several reasons. First, because in a very large bank the salaries of executive officers amount to so much larger *relative* proportion of the whole salary list and that clerical expense as a whole is such a *relatively* small part of their total operating expense, that its separate accounting is not worth while, and that it is approximately correct and better practice to assess *all* costs, except as shown above, on the basis of the balance. The fact that the central reserve bank deducts time in transit and collection charges specifically, and inasmuch as their business with other bankers probably follows more nearly an average condition as to the ratio between balance and per-item cost, doubtless justifies their

opinion, though I believe their conclusion is based on sound appearing theory rather than on the basis of actual figures made in both ways. This is one of those fine points that the individual banker must settle for himself. (See additional remarks on this subject on page 51.)

The foot note explaining the method of computing the average daily amount in transit completes the explanation as to a central reserve city bank. (Page 51.)

#### In an Ordinary Reserve City Bank.

This method with some manifest modifications as to the matter of reserve would also apply to a bank in a reserve city but not in a central reserve city.

As banks in ordinary reserve cities collect some items direct and some through their central reserve city connections, it follows that the calculation of a customer's actual average amount in transit is difficult. In one city a clearing house rule fixes a certain average time in transit which average is used arbitrarily, but as it is based largely on the time in transit to *central reserve points merely* and does not include the additional time in transit absorbed by the central reserve city banks and paid for by means of low-interest-bearing balances, there is a manifest inequity *against* the banks in an ordinary reserve city and *in favor of their customers*. I believe that the bank in an ordinary reserve city should figure its accounts in much the same manner as is given herein for the use of the *Specimen National* in analyzing special accounts, computing time in transit on the basis of direct collection.

As the amount of funds in transit varies greatly in different accounts, and as it is such a large factor in cost, the use of an average, even if it were a correct average, would manifestly be extremely inequitable as to individual large accounts in banks in reserve or central reserve cities.

In making analyses of individual accounts, the bank in an ordinary reserve city, will doubtless desire to deduct the reserve specifically, as does the bank in a central reserve city, inasmuch as this

is a large and indisputable item of cost, but if this plan is followed then the interest earned by a part of their reserve must be included in total interest earnings when computing the average earning rate of usable balances.

This plan of deducting reserve specifically, in an ordinary reserve city bank, however desirable in practice, has a certain element of inaccuracy, inasmuch as a part of such a bank's in-transit items can be counted as reserve. Consequently, if the individual customer is charged with his total in-transit and with the full reserve, he is being given no credit for the fact that some portion of his in-transit items is countable as reserve. And it would be impractical to determine the amount of this. However, this discrepancy is in favor of the bank and may perhaps be looked upon as only a proper margin of safety.

#### Method for Analyzing Special Accounts in The Specimen National Bank.

Now if the *Specimen National* wishes to figure the account of any individual customer so as to calculate the actual cost of collections on that account, it can adopt the central reserve bank's *method* as to any one or more accounts, without affecting the correctness of the general method as to the ordinary run of accounts, but as to these accounts, figured approximately by the reserve city bank's method, certain points must be carefully borne in mind.

A new average earning rate must be obtained and this rate must be calculated in much the same manner as the central bank's rate.

And here arises a point that is likely to cause confusion. Our figures show that the *Specimen National* has a daily average of \$80,000 in transit, but this does not give a correct basis to work from if we are to deduct from the customer's balance the entire true amount of his balance in transit. In other words we must figure our general percentages on the same basis that we are going to figure his account.

Assuming that if the *Specimen National* itself performed the duties it pays its reserve bank to do for it, and collected direct, and that then its average time in transit would be  $3\frac{1}{2}$  days, under these conditions the *Specimen National*'s total in transit would be  $3\frac{1}{2}$  times \$80,000.00 or \$280,000.00, and its earning rate on actual balances would then be figured thus:

Total deposits .....	\$3,500,000.00
Less amount in transit.....	280,000.00
Total of net actual balances.....	\$3,220,000.00
Interest earnings, $\frac{\$185,755.00}{\$3,220,000.00}$	= 5.7687% net earning rate of each dollar of actual balance.

This rate allows for that portion of reserve not covered by all or some part of amount in transit, it allows for interest earnings on a part of reserve and is the true net earning rate on all deposits after deducting the amount in transit, as it would be if all items were collected direct.

Except in a central reserve city bank it is not equitable to deduct reserve specifically from each account inasmuch as, in the case of a bank not in a central reserve city, items in transit to approved reserve agents are counted as a part of reserve.

Another reason is that the Central Bank's reserve *earns nothing* and hence it is proper to deduct it *entirely* from the customer's account *before* figuring the *earning power* of that account, but the other banks receive interest on part of their reserve, therefore in such banks the only fair way is to include reserve earnings as a part of interest earnings and to average *total earnings* against *total deposits*, thereby including in the resulting rate a due allowance both for the interest loss and the interest gain by reason of reserve requirements.

We must now also establish a new percentage for balance cost, as earnings and cost must both be figured on the same basis, thus:

Total balance cost, .....	\$45,978.75
Total actual balances, $\frac{\$45,978.75}{\$3,220,000.00}$	= 1.4278% or average balance cost of each dollar of actual balance.

A specimen account would then be figured in this way:

Apparent average daily balance.....	\$50,000.00
*Average daily amount in transit (basis of direct collection).....	<u>10,000.00</u>
Actual balance.....	<u>\$40,000.00</u>
5.7687% (earning rate on actual balances) times \$40,000.00 equals total earnings of.....	\$ 2,307.48
1.4278% (balance cost on actual balances) times \$40,000.00 equals.....	\$571.12
25,000 items at \$.024613.....	615.33
Interest at 2% on \$40,000.00 equals.....	800.00
Estimated specific collection charges.....	<u>100.00</u>
	2,086.45
Net annual profit on account.....	\$ 221.03

The figuring of actual collection costs is more difficult in a bank not in a central reserve city than it is for the central bank, at least the establishing of the proper percentages seems more complex. The difficulty arises from the fact that the time in transit is largely absorbed by the central bank, and its compensation being in the form of a semi-idle balance, the problem of distributing this cost to the customers of the out-of-town bank is a hard one at first glance, but it is believed that the method outlined above arrives at results that are as near absolute cost as can be hoped for.

Nearly every bank has a few accounts depositing an abnormal number of out-of-town items, and they are often losing accounts. Their balances look good on the face of the books, but on a true analysis a positive loss is shown. What difficulty there may be in correctly analyzing such accounts will well repay the effort if suitable balances are secured. Every account that causes a loss uses up the earnings on that much profitable business.

It might be thought that as the *Specimen National* gets credit on the next day for all items sent to its reserve bank, that its customer who deposits any quantity of outside items is entitled to have the *earnings* (not the interest paid to him) of his balance figured from that day, but this overlooks the semi-idle balance which the *Specimen National* is carrying with its reserve bank as compensation for such service, and as the reserve bank determines the amount of that

\*See Foot Note on page 51 for method of computation.

balance by figuring the time in transit of outside items, there is only one proper way and that is to figure the full time for direct collection against the customer and to adjust the other percentages so as to be consistent with this method.

It is sometimes stated that it is not fair to charge to the customer the loss of interest on funds in reserve banks, because the law requires a reserve, but as a matter of fact were there no such law, most banks would have to keep about this amount of reserve in order to properly handle their business, but even were the reserve of no use except to satisfy the law, its cost, being unavoidable, is properly charged to the customer.

In fact, *all* costs in an *efficiently conducted* business of any kind are properly passed on to the customer. Only costs arising from poor management or defective facilities should be absorbed by the institution itself.

The item of losses has not been considered in this system of cost accounting as losses in the banking business are so variable that no fixed percentage could be allowed for them. It is manifest that an amount of profit must be sought which will be sufficient to provide for moderate losses, and immoderate losses cannot equitably be passed on to the customer.



Comparative Statistics for Cost Purposes. Specimen National Bank.

GENERAL ITEMS.	1910	1911	1912
Daily average capital.....	\$ 250,000.00		
Daily average surplus.....	50,000.00		
Daily average undivided profits.....	10,000.00		
Daily average total savings deposits.....	2,000,000.00		
Daily average total commercial deposits.....	1,150,000.00		
Daily average certificates of deposit.....	350,000.00		
Daily average of all deposits.....	3,500,000.00		
Daily average amount of funds loaned.....	3,122,500.00		
Daily average unloaned funds in excess of legal reserve.....	525,000.00		
Daily average amount of assets not loaned.....	162,500.00		
Daily average amount in transit.....	687,500.00		
Daily average amount in transit on basis of direct collection.....	80,000.00		
Daily average amount of circulation.....	280,000.00		
Number of items handled in commercial department.....	250,000.00		
Number of items handled in savings department.....	625,000.00		
Number of items handled in all loans.....	45,000.00		
<b>EARINGS.</b>			
Total interest earned by all loans.....	173,755.00		
Total interest earned by deposits in reserve banks.....	4,000.00		
Interest earned by government bonds.....	5,000.00		
Exchange and sundry earnings.....	3,000.00		
Total of all earnings.....	185,755.00		
Proportion earned by commercial department.....	79,609.29		
Proportion earned by savings department.....	106,145.71		

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COSTS.	1910	1911	1912
Interest paid on savings.....	70,000.00		
Interest paid on certificates.....	12,250.00		
Interest paid on checking accounts.....	5,000.00		
Total interest on certificates and check accounts.....	17,250.00		
Total general expenses.....	36,505.00		
Specific clerical expense, commercial department.....	6,870.00		
Specific clerical expense in savings department.....	2,300.00		
Final amount of detailed operating expense for commercial department.....	15,383.29		
Final amount of detailed operating expense for savings department.....	2,912.96		
Final amount of general expense apportioned to commercial department.....	11,733.75		
Final amount of general expense apportioned to savings department.....	15,645.00		
<b>PROFITS.</b>			
Net earnings commercial department.....	35,242.25		
Net earnings savings department.....	17,587.75		
Total net earnings.....	52,830.00		
6% on capital, surplus and profits.....	18,600.00		
Final net profits.....	34,230.00		
<b>PERCENTAGES.</b>			
Average rate of interest net, paid on savings.....	3.5%		
Average rate of interest net, paid on certificates.....	3.5%		
Average rate of interest net, paid on com. accs.....	.004347%		
Average percentage cost of handling money.....	1.31367%		
Average cost of handling items in commercial dept.....	.024613		
Average cost of handling items in savings dept.....	.06473		
Average percentage earned on funds loaned.....	5.5646%		
Average percentage earned on total deposits.....	5.3072%		
Net earnings figured on capital only.....	21.13%		
Net earnings figured on capital, surplus and profits.....	17.4%		
Net profits figured on capital only.....	13.69%		
Net profits figured on capital, surplus and profits.....	11.4%		

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## Cost Accounting in a Trust Company.

*General Subdivision of Earnings and Costs in an Average Trust Company Doing a Combination Trust, Savings, Commercial, Bond and Safe Deposit Business.*

### Financial Statement of the Average Trust Co.

#### ASSETS.

Loans and discounts .....	\$1,845,000.00
Bonds .....	535,000.00
Cash on hand and in banks.....	394,000.00
Furniture and fixtures.....	15,000.00
Vault and safe deposit boxes.....	5,000.00
	<b>\$2,794,000.00</b>

#### LIABILITIES.

Capital and surplus.....	\$ 300,000.00
Undivided profits .....	69,000.00
Commercial deposits .....	567,210.00
Deposits from other banks.....	375,890.00
Certificates of deposit.....	196,900.00
Savings deposits .....	1,240,000.00
Trust deposits .....	45,000.00
	<b>\$2,794,000.00</b>

Above figures represent daily averages for a period of one year.

### Statement of Gross Earnings.

#### General Interest Earnings.

Interest from loans and discounts.....	\$ 97,400.00
Interest from banks.....	5,580.00
Interest from bonds.....	22,410.00
Exchange earnings .....	610.00
Less proportion earned by trust deposits.....	2,338.14
Net interest earned by com. and sav. depts.....	<b>\$123,661.86</b>

#### Trust Department.

General trust earnings, fees, etc.....	\$6,530.00
Interest earned by trust deposits.....	2,338.14
Total earnings from trust department.....	<b>\$8,868.14</b>

Forward, **\$8,868.14**

Forward, **\$132,530.00**

Forwarded, **\$132,530.00**

#### Safe Deposit Department.

Total box rentals and storage charges..... **2,200.00**

#### Bond Department.

Total earnings of bond department..... **7,600.00**

Grand total of all earnings..... **\$142,330.00**

(Distribution of general expense to trust, safe deposit and bond departments, shown on line marked "A" on page 40, is based on the proportion of earnings made by each department as shown above.)

#### Summary of Deposits.

Commercial deposits .....	\$ 567,210.00
Deposits of other banks.....	375,890.00
Certificates of deposit.....	196,900.00
	<b>Total for commercial department \$1,140,000.00</b>
Savings deposits .....	1,240,000.00
	<b>Total commercial and savings \$2,380,000.00</b>
Trust deposits .....	45,000.00
	<b>Grand total \$2,425,000.00</b>

#### Division of Interest Earnings Between Commercial, Savings and Trust Departments, on Basis of Total Deposits in Each Department.

$\frac{\$1,140,000}{\$2,425,000} \times \$126,000.00 = \$59,233.00$  for commercial dept.

$\frac{\$1,240,000}{\$2,425,000} \times \$126,000.00 = \$64,428.86$  for savings dept.

$\frac{\$45,000}{\$2,425,000} \times \$126,000.00 = \$ 2,338.14$  for trust dept.

#### Interest Paid Out.

Interest paid to other banks.....	\$ 9,514.00
Interest paid on commercial accounts.....	10,538.00
Interest paid on certificates.....	7,226.00

Total interest paid in commercial dept.  $\$27,278.00$  **\$27,278.00**

Interest paid on savings accounts..... **39,405.00**

Interest paid on trust deposits..... **868.00**

Grand total interest paid out..... **\$67,551.00**

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39

*Distribution of Operating Cost in The Average Trust Company.*

	GENL EXPENSE	COMMERCIAL	SAVINGS	TRUST	SAFE DEPOSIT	BOND DEPT.
Rent	\$ 3,600.00				72.00	
Light and heat	373.00					
Taxes	6,217.00					
Postage	558.00			100.00		
Stationery, checks, pass books		600.00		200.00		
Telegraph and telephone.	559.00					
Directors	600.00					
President	3,300.00					
Secretary and treasurer	3,000.00					
Assistant treasurer	1,500.00					
Teller (sav. and com.)		600.00				
Commercial bookkeeper		1,200.00				
General bookkeeper		300.00				
Assistant bookkeeper		600.00				
Messenger	360.00					
Custodian		250.00		50.00	300.00	600.00
Stenographer						
Traveling expense						
Bond dept. salaries and expenses						
Advertising	2,650.00					
Miscellaneous expense	3,245.00					
Depreciation	1,500.00					
6% on fixtures and vault	900.00					
Distribution of general expense on basis (A) of earnings.	\$28,862.00	\$3,550.00	\$1,150.00	\$3,100.00	\$1,572.00	\$3,246.00
	3,785.56			1,798.30	446.12	1,541.14
Distribution of 25% of net general expense to commercial and savings departments on basis of items handled	\$25,076.44					
Total costs each department	6,269.11	5,786.76	482.35	b\$1,632.35	c\$4,898.30	c\$4,787.14
(a) To be assessed to commercial and savings departments on basis of total deposits.	a\$18,807.33	b\$9,336.76			c\$2,018.12	

*Division of Net General Expense Between Savings and Commercial Departments on the Basis of Total Deposits in Each Department.*

$\frac{\$1,240,000}{\$2,380,000} \times \$18,807.33 = \$9,798.78$  for savings dept.

$\frac{\$1,140,000}{\$2,380,000} \times \$18,807.33 = \$9,008.55$  for commercial dept.

*General Summary of Net Earnings by Departments.*

*Commercial Department.*

Interest earnings	\$59,233.00
Interest paid out	\$27,278.00
General expense	9,008.55
Detailed operating cost	9,336.76
Net earnings	\$13,609.69

*Savings Department.*

Interest earnings	\$64,428.86
Interest paid out	\$39,405.00
General expense	9,798.78
Detailed operating cost	1,632.35
Net earnings	\$13,592.73
	\$13,592.73

*Trust Department.*

Trust earnings, fees, etc.	\$ 6,530.00
Int. earned by trust depos.	2,338.14
Expense trust department	\$ 4,898.30
Int. paid on trust deposits	868.00
Net earnings	\$ 3,101.84
	\$ 3,101.84

*Bond Department.*

Total earnings	\$ 7,600.00
Total expenses	4,787.14
Net earnings	\$ 2,812.86
	\$ 2,812.86

*Safe Deposit Department.*

Total rentals and storage charges	\$ 2,200.00
Total expenses	2,018.12
Net earnings	\$ 181.88
Grand total of net earnings	\$33,299.00
Less 6% on capital, surplus and profits	20,940.00
Final net profits in excess of 6% on investment	\$12,359.00

#### *Average Interest Rates Earned and Paid.*

Average rate earned on total funds loaned and invested.....	5.1958%
Average rate earned by bonds.....	4.188 %
Average rate earned by loans and discounts.....	5.279 %
Average rate paid on savings.....	3.177 %
Average rate paid on bank deposits.....	2.53 %
Average rate paid on all commercial deposits.....	1.857 %
Average rate paid on trust deposits.....	1.93 %

(In figuring interest on capital, surplus and profits, the \$20,000.00 invested in fixtures and vault is first deducted, as interest on these items has already been figured in the costs.)

It will be noted that the profits in the commercial department are much lower relatively, than in the case of the *Specimen National Bank*, the reason being that a Trust Company pays interest on commercial balances to a much greater extent than a National bank.

The analysis of individual accounts would be based on above data and handled in the same manner as in the calculations for the *Specimen National Bank*.

Details already shown in the explanation of the *Specimen National Bank*'s business, are omitted here, the purpose here being simply to show those elements in which a Trust Company's cost accounting would vary from that of other banks.

There is a great variation in the amount of trust business handled by banks having trust departments, or those known as trust companies and having banking departments. I have endeavored to show conditions as they are in an average institution doing a combination trust and banking business.

The individual Trust Company will, of course, need to adapt the plan to its own conditions.



#### Utilizing the Results.

In applying the results secured by the analysis of costs, in a general way, the comparative sheet showing costs, expenses and earnings by departments, as shown on pages 36 and 37, will be of the utmost value to the officers and directors.

A study of such a comparative sheet will quickly locate the specific cause of an increase in expenses or a decrease in earnings.

In utilizing the analyses of individual accounts, tact and discretion must be used.

It is not to be inferred that the purpose of cost accounting is to immediately throw out every account that does not pay.

Its first and greatest purpose is to *know the facts*, so as to have a definite, clean-cut basis on which to approach customers in a really intelligent way, in case their accounts require it.

Your first attention will naturally be directed to your larger accounts, especially those depositing a great many out-of-town items.

Here is a form of letter that might be used in the case of a bank customer, which will indicate the manner of handling such correspondence. The vital point is to be able to show the customer exactly what his account earns and what it costs you to handle it, so that his sense of fairness may be appealed to. Then the letter must be worded in a manner that cannot give offense. That such letters will secure increased balances has been proven over and over again.

(Letter asking for increase in balance)

Mr. .... President,  
..... Bank,

My Dear Sir—In looking over the reports of our Analysis Department, I find that the volume of your out-of-town business has shown a progressive increase for some months past, and while I am indeed

pleased to note this evidence of your increasing business, I feel obliged to call your attention to the bearing this has on the arrangement now in force with your bank.

The enclosed analysis of your account for the past three months shows that the cost to us of handling your growing out-of-town business has reached a figure which makes the balance originally agreed upon, entirely inadequate to meet the present conditions.

I assure you that we keenly appreciate your business, the more so because of the many years of cordial relations that we have enjoyed with you, but I believe, in view of the increased cost of handling your account, that an increase of \$75,000.00 in the net average daily balance of your account is necessary in order to put it on a mutually equitable basis, and trust that you will agree with me as to the fairness of this request.

Thanking you in advance for your consideration, and awaiting an expression of your views in the matter, I am, with kind regards,

Very truly yours,  
Pres. The.....Bank.

In the case of a local customer, it is desirable for some principal officer of the bank to take the matter in charge, preferably the officer best acquainted with the customer. Here also the advantage of submitting an exact statement is manifest. If the customer is not convinced of the fairness of the request, his inclination may be to go to some other bank. But with a correct analysis showing exactly what his account costs and earns, and if approached diplomatically, his pride will be appealed to and he will see that *any* bank would be justified in making the same request of him. He will not desire his account to be looked upon as undesirable, wherever placed, and will willingly increase his balance or make any other equitable arrangement for giving proper recompense to his bank.

A director in one bank voluntarily increased his balance after looking over the monthly analyses of all large accounts in the bank, among which his own had been diplomatically included.

In the case of small accounts, there is but one really proper solution. All commercial accounts carrying balances below the profit

line should be charged a certain fee per month for the handling of the account. This is already done in some banks in certain quarters of New York City, but its extension to the country at large will doubtless be long in coming, for it involves the education of the public and even of many bankers, to the justice of such action.

Temporarily, many small accounts will be carried at a loss, for the sake of the good accounts that may be developed from them.

It is not impossible, however, to weed out some of the most undesirable ones and to adopt a *policy of selection in the taking on of new business of this character*.

A bunch of small accounts, even in the aggregate, represent a small tax on the bank, and this may be offset by their good will and future possibilities.

If, on careful analysis, all your large accounts show a profit, you can wait with some patience for the day when a fee can be charged for the clerical work of handling small accounts.

*Cost analysis finds its greatest rewards among the large accounts with heavy deposits of out-of-town items.*

In a country bank, any effort to secure larger balances from farmers and even from many small storekeepers, by means of an analysis of their accounts, would be foredoomed to failure. The farmer's attitude of mind toward a bank and his preconceived ideas would put it entirely out of the question.

The country banker properly solicits much business that he knows will not pay strictly on its own merits.

But he wants the financial life of the community to flow through his bank. He wants the influence and the friendship of every man in the community, and he does this free work to get it. It is part of his advertising bill. In many places it forestalls competition.

But the country banker needs to understand costs.

He should be able to judge the fairness of the balances that may be requested from him by his depositary banks in the cities.

He perhaps has the account of some outside company doing a considerable business in his town in the purchase of wool, cotton, grain, potatoes or timber.

And perhaps the money is checked out by the local agent about as fast as it is deposited.

This will be a good instance in which to submit an analysis showing cost and lack of earnings and to request either a larger balance or a charge based on the volume of business handled for them.

The local agent receives compensation for his own work and understands the convenience and value of the service the bank renders, and he will usually co-operate willingly in securing the necessary arrangement with the firm he represents.

In one country bank, three or four such adjustments have netted the bank over \$100.00 a year in increased exchange charges.

There is no reason whatever why the country bank should pay express charges on currency shipped in and lose interest on the money while in transit, for the purpose of cashing checks for some outside concern which carries only an infinitesimal balance.

In a savings bank, cost analysis gives a definite basis from which to determine what rate of interest, and what rules as to the computation of same, are most equitable to the bank and to its customers. This matter has already been quite thoroughly covered, beginning on page 23.



### The Analysis of Advertising Methods in a Bank.

The tendency in all business is toward more careful analysis of conditions, to the elimination of misdirected energy and to the intelligent and systematic use of every legitimate means of increasing business profits.

The cost of getting business and of doing business is being studied searchingly that both may be lowered and that profits may be increased through the adoption of a policy that pushes those features naturally most profitable, and that eliminates or changes those features, existing in almost every business, which lose money and therefore lessen the gain on the profitable lines.

Many pages could be filled with true stories of manufacturing successes built out of failures, of costs reduced, wages increased, working hours shortened, products improved,—all by the introduction of scientific business methods.

Salesmanship is being studied as a science and every aid to the economical securing of business is being employed with an intelligence undreamed of a decade ago.

The lowering of costs resulting from increased volume of business is keenly appreciated and it is fully realized that every dollar of new business pays a double profit, first its own natural profit and second the added profit it creates by lifting from the business already acquired, a certain portion of overhead expense.

*This is as true in a bank as in a factory.* A considerable proportion of expense is fixed. The ratio it bears to earnings and the consequent rate of profit depends largely on the volume of business done.

A twenty-five per cent. increase in volume of business, increases profits far more than twenty-five per cent., by reducing the ratio of general expenses on the whole volume of business done.

In planning to increase the business of a bank, the same as in a factory, the first question is, what class of business to strive to increase, in other words, what is the most profitable class of business handled.

Hence, it follows that the subject of costs is intimately associated with any truly intelligent plan for increasing deposits.

The question of costs enters in many ways: for instance, it costs less to keep an old customer than to get a new one, therefore plans for increasing business if as broad as they should be, include plans for retaining old customers, for preventing needless withdrawals from savings accounts, for fostering the interest and the loyalty to the institution of so-called established trade.

The term advertising was formerly and is today, in most cases, taken to mean a standing card in the papers and a little spasmodic work by mail, with no definite aim and based on no careful analysis of conditions, and done purely on theory.

The results of such poorly applied effort are naturally small and have led to the conclusion on the part of many that advertising is a gamble.

As a matter of fact, advertising is a mighty force. While it has built many fortunes, its real power, *when intelligently directed*, is only just beginning to be fully understood.

The percentage of waste effort has been tremendous. That, with all this waste, there has still been a large profit to many advertisers, is proof that advertising holds a latent power which, with intelligent handling, is nothing short of amazing.

If a factory whose sales are not up to the profit-paying volume, can spend money for advertising and thereby increase sales to the point where a profit is made *after paying for the advertising*, who shall say that intelligent advertising is an expense?

*Rather is intelligent advertising expenditure an economy for it lessens expense ratios to a greater extent than its own cost, in a bank as well as in a factory.*

A city bank with one million of deposits has hard work to make

ends meet, with two millions it shows a nominal profit account, with three millions or more the profit begins to reach a satisfactory stage.

But about the time the deposits reach two millions the bank staff, from the president down, is so occupied with the handling of the business acquired that there is little time to study how to develop new business.

When this point is reached it is time for the bank to install an advertising department under the general direction of an expert in this line, with clerical help whose specific duty is to carry out the details.

This department should carefully analyze costs and profits and study the bank's field and direct its publicity in a broad way. *A real advertising manager is a trusted, confidential counsellor in the bank's work and not a mere copy writer.*

Such a department, while its costs will be charged to expense, and while at the start it will be an expense, will, in the end, be the most profitable department in the bank.

It will work both ways, as a producer of profitable business and as a *department for reducing costs*, by lowering the expense ratio by means of an increasing volume of business.

Much advertising advice is based on the desire of some advertising salesman to dispose of his wares, and is unsupported by any definite data as to what can be accomplished. It considers at best merely a detail of advertising method rather than any comprehensive plan.

There are comparatively few men who have had the opportunity to really *know* anything of definite value regarding the actual results of bank advertising.

Only the man who has worked intimately with, rather than for, a large number of banks, who has so held their confidence as to be trusted with the inside figures as to results, who has accumulated a mass of data showing the results of all kinds of business-building effort, is really able to analyze conditions and formulate a plan on which a conservative banker should care to appropriate the bank's money.

But such expert knowledge is to be had and the banker who avails himself of it and follows an advertising campaign laid down on correct lines, will indeed find that he has discovered a *new force in banking*.

It is no longer necessary to accept advertising *theory*. The author of this book is today and has been for some years, handling the advertising departments of many banks which spend liberal amounts and where the advertising department is first of all an analytical department. These banks expect and do receive from their advertising departments the same efficiency, the same showing of results, the same exhibition of profit that they demand from all other departments.

It is entirely within bounds to say that it will completely surprise the average banker who will investigate, to learn how scientifically advertising can be handled, to discover that this line of work has been reduced to such a *definite basis* that it is practicable to predict within reasonable limits what can be accomplished by a given expenditure, handled in a given way.

The analysis of costs to determine which classes of business pay the best profit and the *methods of planning advertising to accomplish an increase in these particular lines* have been worked out *practically* and can be *proven* from actual records.

This whole subject is one of absorbing interest to the banker who wants his institution to grow and to make the utmost profit.

Advertising so handled is on an entirely new plane, vastly different from the old hit or miss style. It is truly a *new force in banking*.



#### Foot Note.

To get average amount in transit daily. Compile items *not convertible on day received* for a period of one month as follows:

Total of	(Time figured from Chicago.)
\$10,000 on St. Louis	2½ days in transit = \$ 25,000 for one day
25,000 on Omaha	3 days in transit = 75,000 for one day
25,000 on Spokane	8 days in transit = 200,000 for one day
5,000 on Grand Rapids	2 days in transit = 10,000 for one day
<hr/>	
\$65,000	\$310,000 out one day

\$310,000 equals 4.7629 average days each dollar is in transit.  
\$ 65,000

\$310,000 equals \$10,000.00 average daily amount in transit to be  
31 deducted from apparent balance to give true balance.

#### PROOF.

$$\frac{\$65,000}{31} = \$2,096.77$$
 average daily deposit  $\times$  4.7629 average days  
out = \$10,000.00, average daily amount in transit.

#### Counting Items.

The one thing in this system of cost accounting which is most often questioned is the use of a per-item cost. And the criticism never is that the principle is incorrect, but that the work involved would be excessive.

With present facilities and methods, this may be true in very large banks; but, once grant that a bank must know its costs, and that the cost of handling items is a fundamental and necessary factor to consider in cost accounting, and there can be no question but that the ability of bank accountants and the ingenuity of the adding machine manufacturers will be equal to devising simple and easy, if not nearly automatic means for doing this counting. Automatic counting, weighing and measuring are a necessary part of the business system of thousands of offices and factories.

That banks will continue for all time to render services without proper compensation, merely for lack of facilities for easily keeping account of those services, is unbelievable.

The following method of compiling items, written by the Auditor of a bank having assets of about \$3,000,000.00 will be of interest to those who may have looked upon the counting of items as impractical.

"In regard to the manner in which I arrived at the total number of items handled in the course of the year, in this bank, I will say that I had a sheet of paper ruled off in eight columns, the columns being headed: Commercial deposits, commercial checks, foreign items, clearing house items, post-office money orders, savings deposits, savings withdrawals, and certificates of deposit. On the left hand side of the sheet, running down the page, I had the dates from August 1st to August 31st. I used the items handled in August, multiplied by twelve, to give me the estimate for the year.

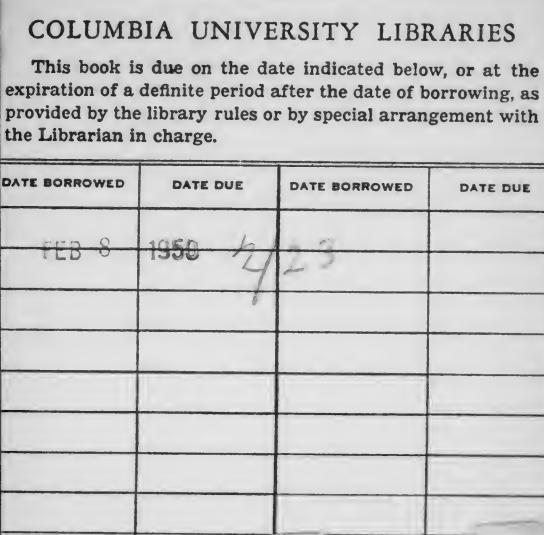
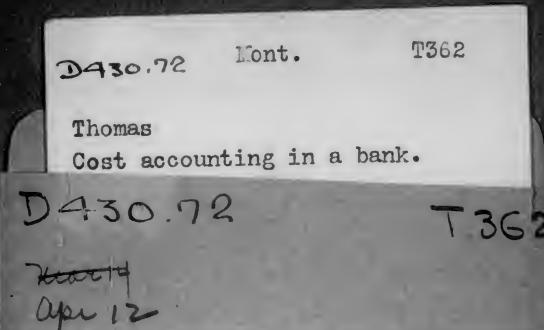
"In this bank it is a comparatively easy matter to find the number of items handled each day, as all our checks, deposits, clearing house items and post-office orders are run on adding machines on wide sheets, which are filed away. On getting these sheets out, I first turned to that of August 1st, and counted the commercial deposits, placing the number in the first column under the heading of commercial deposits and opposite the date of August 1st. I then counted the number of commercial checks on us, entering same on the same line, but in the second column. The number of savings deposits was entered in the third column, savings withdrawals in the fourth column, clearing house checks in the fifth, and so on. The foreign item or items sent away for credit or remittance, we counted by referring to the copy of the letter in which the items were sent away.

"By repeating this operation for each working day during the month, then getting the grand total, and multiplying same by twelve, I arrived at the estimated number for the year. In arriving at the number of items in the savings department, I was obliged to go through the savings deposit slips and count all items listed thereon, and deduct the total from the above total, the remainder being the commercial items.

"In this bank the express orders are included in the foreign items, as we send them all to New York for credit. If a bank cashes express orders in its home town, it would be well to add another column to the item sheet.

"In getting the number of items handled for an account under analysis, for the period of say one month, I counted all the items listed on the deposit slips, and to this total added the number of checks paid and deposits made as shown by the individual ledger sheet for that account. In my opinion it would be a good plan, at the close of business each day, to make a record of the number of items handled during the day for each account under analysis, also if any foreign items are deposited, the amount and the time which it will take to collect the funds.

"There are undoubtedly many banks that do not list their items on the adding machine, as we do, but in all banks somewhere on their records there is a complete itemized list, and counting the items, which appears at first blush to be a staggering proposition, is in reality but the work that a junior clerk can do during his spare time."





END OF  
TITLE